New England Deaconess Hospital
Boston, Massachusetts

pulse

VOLUME 31 NUMBER 6 MARCH 1978

Deaconess machinist's invention helps paralyzed patients 'speak'

Thanks to Bill Hurney, Deaconess machinist and inventor, a completely paralyzed patient can now communicate basic needs to the nurses in the Intensive Care Unit. Because of Bill Hurney, X-rays on Farr 2 are now taken more efficiently and with greater patient security and comfort. And, as a result of Mr. Hurney's creativity and craftsmanship, numerous dialysis patients are finding life a little easier.

Although Bill claims he is not always satisfied with his final products, enthusiasm runs high among staff and patients benefitting from his labors. Linda Murray, head nurse in ICU B, excitedly recounted how 30-year-old Jim Miles, a victim of Guillain-Barre syndrome, spelled out his first communication since being struck by the paralyzing disease. Jim's first sentence was spelled out on a horizontal alphabet display with a pointer that moves from letter to letter, conveying the patient's message. The pointer is controlled by an electric switching

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Ultrasound unit is expanded, technique speeds diagnoses

Renovations for the expanded ultrasound diagnostic unit have recently been completed on the north wing of Farr 2. The unit now occupies more than double its previous space and has added a new ultrasonography machine to the two that have been in use here for the past four years. This expansion represents the third in a series of improvements to the hospital's diagnostic radiology department.

The medical use of ultrasound, sometimes known as sonography, is an adaptation of the sonar principle used by industry and the military for mapping the ocean floor and locating objects such as submarines.

Electrical energy is converted into very high frequency sound waves, inaudible to the human ear, which are bounced off a target area. The resulting patterns formed by the returning sound waves are converted electronically into a picture of the area which can be displayed on a video screen, traced onto a paper recorder, or stored in a computer.

There is no discomfort in an ultrasound examination. The patient is aware that the transducer is being moved back and forth over the skin surface, but no unpleasant sensation is associated with this. Because the transmission of sound waves is the basic process in ultrasound, a liquid coupling material such as mineral oil, is used to prevent air from getting between the transducer and the patient's skin. The patient must only rest quietly during the examination.

Dr. Florencio A. Hipona, head of the ultrasound division, works together with Dr. Robert A. Kane in analysing the complex data generated by the machines. The doctors are assisted by two medical sonographers; Marcia Lavery, who specializes in abdominal examinations, and Debbie Curry, whose specialty is heart examinations.

"Ultrasound often renders a faster and more effective diagnosis than the conventional X-ray, and can in many cases eliminate routine examinations," Dr. Hipona said.

He explained that the technique is particularly effective in diagnosing disease in the abdomen, eyes, head and

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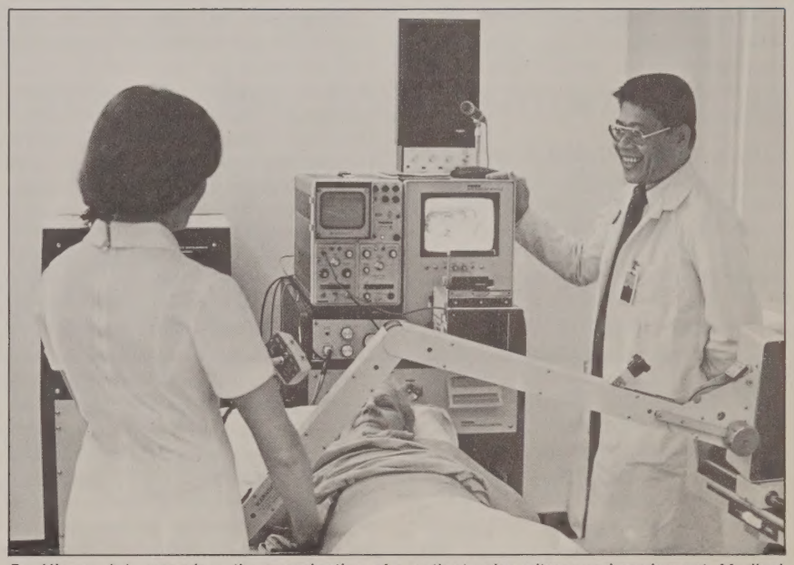

Dr. Hipona (r.) supervises the examination of a patient using ultrasound equipment. Medical sonographer, Marcia Lavery, (l.), controls the position of the transmitting and receiving head with her right hand; her left holds a remote attachment which keeps the scanning arm tracking on the desired path. She controls the video display with a foot pedal.

James F. Farr named Chairman of the Board

Mr. James F. Farr was appointed Chairman of the New England Deaconess Hospital Board of Trustees at the annual meeting of the corporation held at the Museum of Science in January.

Mr. Farr is senior partner in the law firm of Hausserman, Davison and Shattuck, and is well known in Boston's legal and financial circles.

"I take a great deal of pride in the fact that my association with the Deaconess spans more than a generation. The hospital has been a part of my life for a long time," Mr. Farr said.

He replaces C. Vincent Vappi, president of the Cambridge-based construction firm of Vappi and Co., Inc. Mr. Vappi served as chairman from April of 1975 and will continue to chair the hospital's long range planning committee.

The annual meeting included reports by F. Thayer Sanderson, board treasurer; Frank C. Wheelock Jr., M.D., president of the medical staff; and Mrs. Roger A. Perry, Jr., treasurer of the Friends of the Deaconess.

Hospital President, Laurens MacLure, and Director, Richard E. Lee, gave reports from a management perspective.

The two major themes of the meeting were concern over government encroachment into hospital management and rapidly escalating operating costs. Many held the former at least partially responsible for the latter.

However, Mr. Vappi assured the assembled trustees and corporation members that their hospital was on a sound financial footing and in a strong position to weather the storms ahead.

Elected to Honorary Trustee Membership were **Herbert D. Adams, M.D.,** former chief executive officer of the Lahey Clinic; **Mrs. Halfdan Lee,** a former member of the executive committee; and **R.D. Lowry,** the hospital's former executive vice president.

Re-elected to the board was **Albert Pratt,** senior partner at Paine, Webber, Jackson and Curtis, Inc., and chairman of Paine Webber International S.A.

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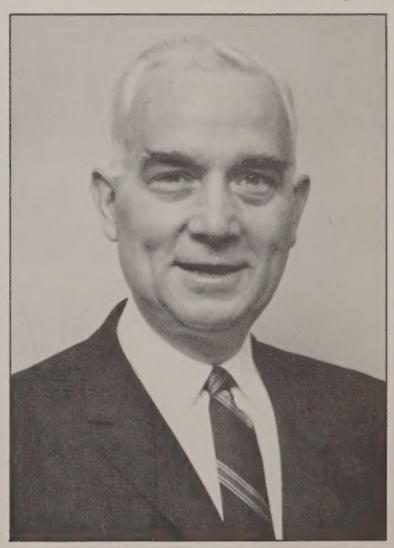


James F. Farr

DON'T LET THIS HAPPEN TO YOU

WARNING
Do not remove this vehicle
It has been seized by the City of Boston for unpaid parking tickets. Removing or tampering with vehicle or boot may result in prosecution and imprisonment for up to ten years.
Boston Police

"Watch those signs," warns Captain Walter Casale of the police department's towing enforcement division. "If you have more than five unpaid parking tickets, you're on our computer list." And that means you're a prime candidate for the boot, a device clamped to the front wheel of an offending auto such as the one pictured above outside Harris Hall. The boot completely immobilizes the vehicle and is not removed until every outstanding ticket is paid. Captain Casale says two trucks loaded with boots cruise the streets of Boston daily looking for illegally parked cars.

Machinist's invention . . .

(continued from front page)

device activated by minute movements of the patient's chin.

Ms. Murray pointed out that this communication device can be used not only in paralysis cases but also with other forms of illness that affect communication. In use only three weeks, the device has already altered the perimeters of Jim Miles' world by giving him a silent way to communicate.

Another of Mr. Hurney's innovations, in use in the Radiology department on Farr 2, is an improved femoral arteriogram table with a movable top. This device, used to X-ray patients' lower legs, films the arteries and blood flow of the entire lower leg with only one injection of contrast material, rather than several, improving patient comfort and efficiency.

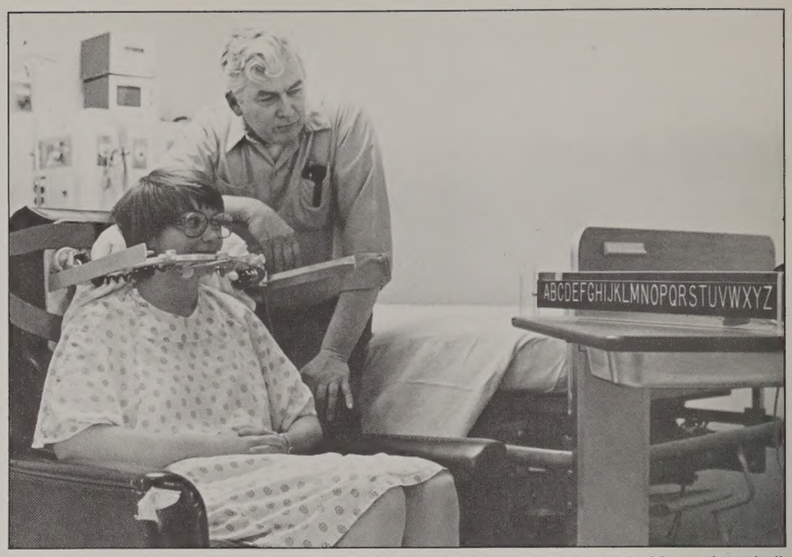
Robert Haydon, chief X-ray technician, enthusiastically demonstrated another of Bill's constructions, a weight-bearing foot device, constructed to save wear and tear on both the patients and the X-ray cassettes. The X-ray patient stands on a heavy piece of plexiglass which has position markings to ensure accurate X-rays. Designed approximately three years ago, the table is used an average of eight times a week.

Other design improvements include a Lamson tube carrier, a cylindrical container to carry IV solutions from the pharmacy to patient floors via pneumatic tubes; an automatic laundry chute exit door; a gas-scavenging hood for blood oxygenators; and an emergency door-opener for the radiation treatment room. Bill also perfected the miniscule ring which is attached to the aorta during bypass surgery to aid in future fluoroscopic examinations.

Altogether, Mr. Hurney has constructed 22 new devices for hospital use and modified or improved an equal number. In addition, he has developed equipment for Joslin laboratories, Overholt Thoracic Clinic, Lahey Clinic Department of Neurosurgery, and Shields Warren Radiation Laboratory.

Bill's contribution to the smooth operation of the Dialysis Unit has been invaluable. In addition to devising a ventilating and drainage system for the dialysis machines, Bill has been on hand whenever needed to extract tourniquets stuck in recirculating impellas or to deal with other mishaps.

Privately, Mr. Hurney has a patent on a specially packaged fingertip bandage which he invented for a finger injury he sustained several years ago. Mr. Hurney owned his own machine shop before coming to the Deaconess in 1973. He lives in Needham with his three children and his wife, Edie, who works in the Pathology department here at the Deaconess. In his spare time Bill is building an addition to his house and also pursues interests in boating and a variety of sports.



Bill Hurney demonstrates one of his inventions, a horizontal alphabet board with a pointer ball controlled by an electric switching device. This invention enables paralyzed patients to spell out messages to the intensive care unit nurses.

Ultrasound . . .

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heart, but added that the procedure is also effective in examining many other areas of the body.

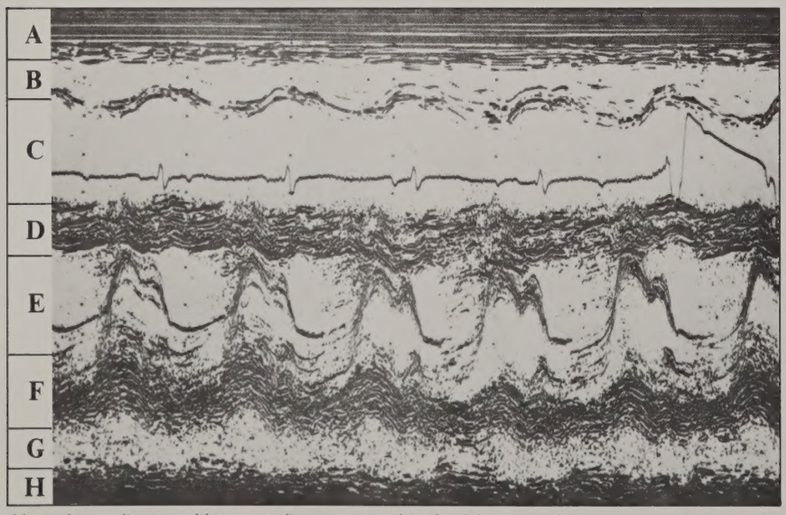
Ultrasound is credited with being a superior diagnostic tool because it adds function to the information. This means, for example, that when the sound waves are directed at a heart valve, the valve can be observed actually moving. Thus the physician, by observing repeated openings and closings of the valve, can determine immediately the health of this organ. In the same manner, repeated observations of the contractions of the heart can be used to diagnose heart disease.

An added advantage of ultrasound is that it is non-invasive. X-rays in large doses can be harmful, but sound waves at the levels used for diagnosis have been determined to be completely safe for multiple applications.

One innovative use of ultrasound is the location and drainage of an abdominal abscess. A special doughnut-shaped sound-transmitting head is fitted with a hollow needle, and when the precise position of the abscess is determined (it can be viewed clearly on the video screen) the needle is guided into the abscess and infected tissue removed.

"The contents of the abscess is simply pulled out through the needle without trauma of major surgery," Dr. Hipona said.

"A patient who was referred to us recently," he added, "had a suspected mass on his kidney, but other diagnostic techniques failed to show the specific nature of the mass. We were able to positively identify the mass as a tumor in a very short time. Ultrasound has significantly abbreviated the diagnostic process and in doing so has lowered diagnostic expense to the patient."



Above is an ultrasound image as it appears to the physician on a video screen. This particular examination is known as an echocardiogram since it shows a cross-sectional view of the heart; the diagnosis is of abnormal fluid surrounding it. A, designates the chest wall; B, the abnormal fluid; C, the right ventricle with a superimposed electrocardiogram readout; D, the interventricular septum; E, the left ventricle with mitral valve shown opening and closing in an 'M' pattern; F, the posterior heart valve; G, abnormal fluid; and H, the lung.

Mr. Farr . . .

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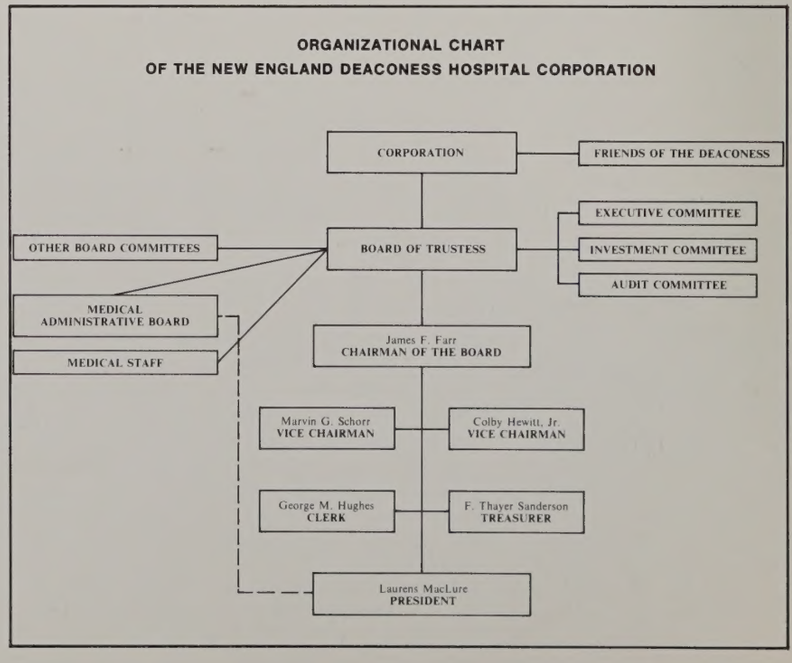
Elected to the board for five-year terms were **Karen N. Horn,** a vice president of the First National Bank of Boston; **F. Thayer Sanderson,** current treasurer of the board and the senior vice president and senior trust officer of the Shawmut Bank; **Charles L. Smith, Jr.,** managing partner of the State Street Research and Management Company; and **Hillard W. Welch,** president, International Ophthalmic Industries Corporation.

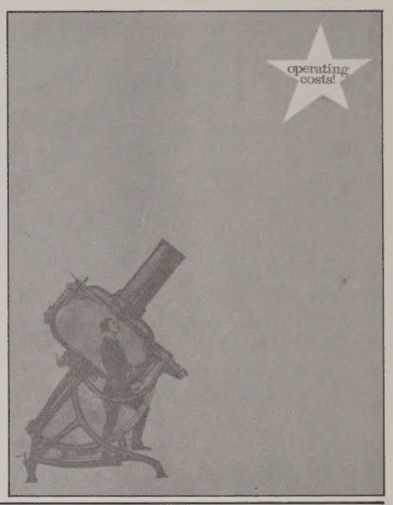
The following were elected to the Corporation membership: **Bruce E. Boorman,** corporate secretary of the Liberty Mutual Insurance Company; **Norman M. Dahl,** a vice president and manager of Merrill Lynch, Pierce, Fenner, and Smith Inc.; **Lyman H. Hoyt, M.D.,** of the Deaconess staff; **Thomas E. Leggat,** a partner in the law firm of Bingham, Dana and Gould; **Edward W. Ostrander,** treasurer of Bird & Son, an East Walpole roofing supply company; **Anne Wardwell,** daughter of former trustee, Mrs. Sheldon E. Wardwell; and **Robert E. Wise, M.D.,** chief executive officer of the Lahey Clinic.

Following the meeting, a dinner was held after which James L. Tullis, M.D., chairman, department of medicine, gave a speech concerning the Bible as a source of insight into the roots of our scientific heritage. For too long, he said, the Bible was thought of as an exclusively religious book confined chiefly to moral concepts.

"To the contrary," Dr. Tullis said, "this stark, utterly candid history is replete with medical content." He then illustrated his assertion with many interesting examples.



American Hospital Association continues campaign to inform the public about rising health-care costs



In November, The American Hospital Association embarked on its first national print advertising campaign with the goal of putting hospitals back into perspective for the American public.

The following ad has appeared in the Wall Street Journal, New York Times *and* Washington Post. *It is being reprinted in the* Pulse *in two parts. This month the subject is why hospital costs are high; next month's article proposes innovation on the part of hospitals as a general-purpose tool in controlling costs.*

□

Today the increasing cost of hospital care and service concerns many Americans: the administration, the congress, state and local officials, economists, labor unions, employers, insurance companies, the public – and most of all, we who provide America's health care.

Different groups propose different "solutions": reduce facilities, beds and equipment. Share equipment among groups of hospitals, broaden insurance benefits. Cut insurance benefits. Increase federal controls. Decrease federal controls. Regulate physicians. Educate the public to prevent illness. Decrease the demand for hospital care. Increase the incentive for cost control. Even impose arbitrary "price controls," to cite just a few.

We believe, however, that first it's important to understand the problem.

Why hospital costs go up– the four real reasons:

First, simple inflation. Just like everything else, hospital supplies, services and staff cost more every year – everything from biopsies to bedpans. Currently simple inflation accounts for more than 50% of the annual increase in hospital costs. Yet, through careful and conscientious management, since 1970, the medical care index has risen less than food, fuel, and utilities, and only slightly more than housing.

Second, regulation. You won't find it itemized on your hospital bill, but one of the most substantial and most rapidly increasing costs of hospital care is "red tape." Eight federal regulations alone add $22 to every hospital bill, a total of $863 million this year and more than a billion dollars a year by 1980. And last year the Department of Health, Education and Welfare issued almost six-hundred new or proposed health related regulations. In triplicate.

Third, demand. In 1955 America's hospitals admitted twenty-one million patients; in 1975, thirty-six million. Out-patient care increased from 126 million in 1955 to 255 million in 1975 . . . an increase of 144 millon patients in one generation!

In a sense, hospitals have created their own problems – and are suffering now from their success in providing more care, better care, for more people. And, as with our homes, cars, education – more and better costs more and more.

Also, as improved health care lengthens our life span, our population both increases and grows older – demanding and requiring more extensive, intensive and expensive hospital care. Add to this fact that today 183 million Americans are covered by hospital expense insurance, as compared to only 77 million twenty-five years ago, and it's easy to understand the incredible increase in demand for hospital services.

Everyone to be involved

Cost-cutting efforts gather momentum here

The Deaconess has a tradition of cost consciousness. Responsibilities to our patients and employees have demanded it. Waste, duplication, underutilized equipment and services, ultimately detract from the quality of care for which we have such an outstanding reputation.

However, over the past few years, the issue of hospital costs has become a major political issue. Why, politicians and bureaucrats keep asking, have patient charges increased so rapidly? Paradoxically, a great deal of time and money is spent just satisfying these demands for information; and while there are no simple answers, two major factors have contributed significantly to escalating patient charges.

First, in response to consumer demand, we are able to offer a greatly expanded variety of patient services. Second, wages and benefits for hospital employees have risen at a higher than average rate to bring them in line with those paid for similar skill levels in business and industry. In addition, prices for medical supplies, utilities, food and equipment, especially the highly sophisticated electronic variety, have increased dramatically.

The health-care price tag is high, and to lessen the impact of these increased costs on patient bills and to maintain our commitment to a continuous upgrading of employee benefits, the hospital has formed a Cost Containment Committee. Beginning its task shortly before Christmas, the committee will solicit help and advice from every department and every employee in its efforts to restrain rising operating costs without jeopardizing patient care.

"There has been a great deal of publicity about hospital costs over the past couple of years," said Director Richard E. Lee. "It is clear that we must do everything possible to contain cost and spend funds as wisely as possible," he added.

The committee, which functions in a directional role, is chaired by Martin E. Cernek, administrative assistant, coordinated by James G. Benoit, assistant to the director for management systems, and is operating under the guidance of Richard Delaporta of the Group Systems Engineering Program at the Massachusetts Hospital Association.

Committee members are: Adrian Birkett, public relations; Joe Ferrante, surgical services; Gail Graham, administration; Mary Moberly, nursing service; Bill Tobin, laboratories; and Tom Wright, purchasing. Pamela Huling, administration, is recording secretary.

A March 2 meeting of department managers featured an overview of the philosophy and workings of the cost containment program. The department managers were recognized as the backbone of this operation that is now a permanent feature of the hospital's management structure. It was noted that a major goal of the operation was to reinforce a cost-conscious attitude, one already taken seriously by many at the Deaconess.

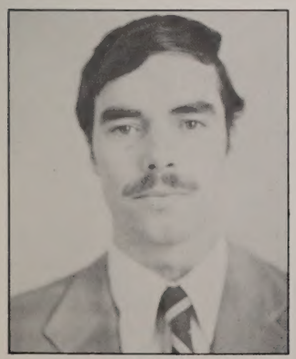
"We became more aware that it is actually an interdependent process in which we need to depend on each other to make this work. For example, the Cost Containment Committee depends upon the department managers to direct us toward hospital-wide cost saving projects," Mr. Cernek said.

He explained that department managers, in turn, depend upon their staff to carry out cost savings in their respective departments as a part of hospital-wide projects.

"Department managers also depend upon each other to work out cost savings that require their mutual cooperation to succeed," Mr. Benoit said, adding: "The committee is depended upon to come up with instruments that will help everyone to carry out his or her chosen project efficiently and successfully."

Mr. Benoit emphasized that "cooperative interdependence is the climate in which cost-saving attitudes grow."

Del Lewis named assistant security manager



Del Lewis

Del Lewis of the hospital's security department has been promoted to assistant security manager. Mr. Lewis will be involved with investigations and coordinating the guard service. He will also help integrate the security needs of the Deaconess with those of other area hospitals.

Presently working towards a masters degree in criminal justice from Northeastern University, Mr. Lewis earned his bachelor's degree in criminology from the State University of New York. Prior to his appointment with the Deaconess last August, he worked in the hotel security field and was an operations manager for the Burns International Security Services, Inc.

FROM THE DEACONESS ARCHIVES: The Deaconess building as it appeared in the 1920's. The assistant chaplain's office is now located on the site of the imposing original front door.

29 employees honored at Service Awards coffee hour

Laurens MacLure, president, and Richard E. Lee, director, presented service awards at ceremonies held February 17 in the Harris Hall living room. Awards were presented to 16 employees who have been with the Deaconess for five or more years.

Thirteen others also received awards but were unable to accept them in person. A list of award recipients not present at the ceremonies follows:

Five-year service award recipients:
Louise Arzoomanian
Data Processing
Dianne P. Capachin
Service Coordination
Ann M. Donahue
Nursing Service
Marie Gallagher
Administrative Services
Jane Gerry
Chemistry
Audrey Jacome
Intensive Care
Beverly A. Lynch
Dietary
Christine Matthews
Dietary
Helen Ann Mohan
Surgical Service
Bernice Young
Deaconess Medicine

Ten-year service award recipient
Patricia Wilcox
Patient Service

Fifteen-year award recipient
Janet L. Summers
Nursing Service

Twenty-year service award recipient
Alice Malone
Nursing Service

Laurens MacLure and Richard E. Lee congratulate five-year award recipients: (back row, l.-r.) Alice F. Carlson, nursing service; Kathleen White, hematology laboratory; Deborah G. Simon, service coordination; (middle row, l.-r.) Janet M. Fitzgerald, observation unit; Lewis H. Jefferson, SWRL administration; (front row, l.-r.) Jean E. Tasillo, patient service; Robert P. Neily, surgical services; Robert J. Prins, Jr., surgical services; and Margaret Marhul, medical records.

Leah E. Johnson, nursing service, has served the Deaconess for twenty years.

Ruth M. Sullivan, library, received a fifteen-year pin.

Virginia F. Hunt, chemistry laboratory, and Conrad P. Castro, purchasing, are congratulated by Laurens MacLure, president, (l.) and Richard E. Lee, director, (r.), for receiving their thirty-year service awards.

Laurens MacLure and Richard E. Lee congratulate Chilla K. Merrill on receiving her twenty-five year service award pin.

Laurens MacLure and Richard E. Lee congratulate Angela Delmonico, nursing service, and Peter Dalton, manager of building services, for completing ten years of service to the hospital.

New England Deaconess Hospital
185 Pilgrim Road
Boston, Massachusetts 02215

pulse

The New England Deaconess Hospital is a 489-bed and 14-building complex. Physicians from the Joslin Clinic, the Lahey Clinic, Overholt Thoracic Clinic and the general medical and surgical staffs serve the needs of their patients at the hospital. The Deaconess is internationally known for diagnosis, treatment and research in brain and chest surgery, cancer, diabetes and general medicine, and is affiliated with Harvard Medical School.

PULSE is published monthly by the public relations department of the New England Deaconess Hospital.

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Editorial Assistant

Ultrasound – the radiologist's latest diagnostic tool. See front page.

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